IN THE ABSTRACT:

Please replace the Abstract by the following on a new individual sheet;

Method for Successive Placement based Refinement of a Generalized Cost Function

Abstract

A generalized method for optimizing the global placement of a VLSI chip across multiple cost metrics, such as total wire length, timing, congestion, and signal integrity is described. The method relies upon a "look ahead" technique, combined with any generic cost function that can be used to set placement directives. These placement directives include net weights and cell spreading. The method of performing the placement involves the iterative reuse of the process of successive partitioning. This iterative reuse establishes the capability of looking ahead to determine what is to happen. Based on the look ahead, it is possible to evaluate the qualities of the placement about to be generated. The method proceeds through the placement from while maintaining the current state of the placement along with the look-ahead state of the placement. Directives are generated and modified in order that the next steps applied to the current state of the placement will cause it to change to achieve an ultimate higher quality final output.